IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Assignee:	Cisco Technology, Inc.		
Title:	METHOD AND APPARATUS FOR INTER-ZONE RESTORATION		
Application No.:	09/899,962	Filing Date:	July 6, 2001
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Austin, Texas
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APPEAL BRIEF

Dear Sir:

This brief is submitted following the Notice of Appeal filed on September 24, 2007. Appellant appeals the final rejections of claims 1-46 in the Final Office Action dated April 9, 2007, the Advisory Action dated July 23, 2007, and the Notice of Panel Decision from Pre-Appeal Brief Review dated January 28, 2008. The Notice of Panel Decision sets an extendible one-month time period for filing this Appeal Brief.

Filed herewith is a petition for a three-month extension of time, extending the period for filing this Appeal Brief to May 28, 2008. Please charge deposit account No. 502306 for the fee of $510.00 associated with this Appeal Brief and the fee of $1,050.00 for the petition for a two-month extension of time. Please also charge this deposit account for any additional sums that may be required to be paid as part of this appeal.

REAL PARTY IN INTEREST

The real party in interest on this appeal is the assignee, Cisco Technology, Inc.

RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this application.

STATUS OF CLAIMS

Claims 1-46 are pending.

Claims 1-46 stand rejected.

Appellant appeals the rejections of claims 1-46.

STATUS OF AMENDMENTS

No amendments were filed subsequent to the final rejection of April 9, 2007.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a method for restoring a path in a communication system between zones. See, for example, Specification at p. 2, line 31—p. 3, line 1; p. 4, lines 9-14. The method includes establishing an inter-zone link between a first border node of a source zone and a second border node of a destination zone, and identifying an inter-zone link failure between the source zone and the destination zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28. The inter-zone link meets class of

service requirements between the source zone and the destination zone. See, for example, Specification at p. 5, lines 16-19 and 9 p. 13, lines 26-28.

The method also includes identifying a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 6, lines 32-33; p. 5, lines 12-19; and p. 7 as amended on p. 3 of Appellant's Amendment dated August 21, 2006 (as noted in Appellant's submission of August 21, 2006, support for this amendment may be found, for example, in the Specification as originally filed on p. 5, lines 12-19; on p. 6, line 12—p. 7, line 3; and on p. 13 lines 26-34; among others; and on pp. 5-6, among others, of U.S. Patent Application No. 09/859,166, which was incorporated by reference in the present application as originally filed). The method further includes informing a node in the destination zone of the pre-planned alternative route, informing a node in the source zone of the pre-planned alternative route, and providing communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14; original claim 1.

Claims 2-8 depend on claim 1.

Independent claim 9 is directed to a network element configured to restore a path in a communication system. See, for example, Specification at p. 2, lines 31—p. 3, line 1; p. 4, lines 9-14; p. 17, line 16—p. 20, line 12; original claim 9. The network element includes a processor that is configured to establish an inter-zone link with a first border node of a source zone and with a second border node of a destination zone, and to identify an inter-zone link

failure between the source zone and the destination zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28. The inter-zone link meets class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 5, lines 16-19 and 9 p. 13, lines 26-28.

The network element is also configured to identify a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 6, lines 32-33; p. 5, lines 12-19; and p. 7 as amended on p. 3 of Appellant's Amendment dated August 21, 2006. The network element is further configured to inform a node in the destination zone of the pre-planned alternative route, inform a node in the source zone of the pre-planned alternative route, and provide communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14.

Claims 10-16 and 42 depend on claim 9.

Independent claim 17 is directed to a computer system that includes a processor, a computer readable medium coupled to the processor, and computer code, encoded in the computer readable medium. See, for example, Specification at p. 2, line 31—p. 3, line 1; p. 4, lines 9-14; p. 17, line 16—p. 20, line 12; original claim 17. The computer code is configured to cause the processor to establish an inter-zone link with a first border node of a source zone and with a second border node of a destination zone, and to identify an inter-zone link failure between the source zone and the destination zone. See, for example, Specification at p. 6,

lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28. The inter-zone link meets class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 5, lines 16-19 and 9 p. 13, lines 26-28.

The computer code is also configured to identify a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 6, lines 32-33; p. 5, lines 12-19; and p. 7 as amended on p. 3 of Appellant's Amendment dated August 21, 2006. The network element is further configured to inform a node in the destination zone of the pre-planned alternative route, inform a node in the source zone of the pre-planned alternative route, and provide communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14.

Claims 18-24 and 43 depend on claim 17.

Independent claim 25 is directed to an apparatus for restoring a path in a communication system. See, for example, Specification at p. 2, lines 31—p. 3, line 1; p. 4, lines 9-14; p. 17, line 16—p. 20, line 12; original claim 25. The apparatus includes means for establishing an inter-zone link with a first border node of a source zone and with a second border node of a destination zone, and means for identifying an inter-zone link failure between the source zone and the destination zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28. The inter-zone link meets class of service requirements between the

source zone and the destination zone. See, for example, Specification at p. 5, lines 16-19 and 9 p. 13, lines 26-28.

The apparatus also includes means for identifying a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 6, lines 32-33; p. 5, lines 12-19; and p. 7 as amended on p. 3 of Appellant's Amendment dated August 21, 2006. The apparatus further includes means for informing a node in the destination zone of the pre-planned alternative route, means for informing a node in the source zone of the pre-planned alternative route, and means for providing communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14.

Claims 26-32 depend on claim 25.

Independent claim 33 is directed to a computer program product encoded in computer readable media. See, for example, Specification at p. 2, lines 31—p. 3, line 1; p. 4, lines 9-14; p. 17, line 16—p. 20, line 12; original claim 33. The computer program product includes a first, a second, a third, a fourth, a fifth, and a sixth set of instructions executable on the computer system. See, for example, Specification at p. 17, line 16—p. 20, line 12. The first set of instructions is configured to establish an inter-zone link with a first border node of a source zone and with a second border node of a destination zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28. The second set of instructions is configured to identify an inter-zone link failure between the source zone and the destination

zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28. The inter-zone link meets class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 5, lines 16-19 and 9 p. 13, lines 26-28.

The third set of instructions is configured to identify a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone. See, for example, Specification at p. 6, lines 32-33; p. 5, lines 12-19; and p. 7 as amended on p. 3 of Appellant's Amendment dated August 21, 2006. The fourth set of instructions is configured to inform a node in the destination zone of the pre-planned alternative route; the fifth set of instructions is configured to inform a node in the source zone of the pre-planned alternative route; the sixth set of instructions is configured to, and provide communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14.

Claims 34-40 and 45 depend on claim 33.

Independent claim 41 is directed to a method for restoring a path in a communication system between zones. See, for example, Specification at p. 2, line 31—p. 3, line 1; p. 4, lines 9-14. The method includes establishing an inter-zone link with a first border node of a source zone and with a second border node of a destination zone, and identifying an inter-zone link failure between the source zone and the destination zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28.

The method also includes identifying a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The method further includes informing a node in the destination zone of the pre-planned alternative route, informing a node in the source zone of the pre-planned alternative route, and providing communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14.

In addition, the method includes identifying an intra-zone failure within at least one of the source zone and the destination zone, and dynamically identifying an alternative route using a distributed restoration process. See, for example, Specification at p. 6, lines 23-30. The distributed restoration process is associated with the at least one of the source zone and the destination zone. See, for example, Specification at p. 5, lines 28-32; p. 6, lines 26-27.

Independent claim 44 is directed to an apparatus for restoring a path in a communication system. See, for example, Specification at p. 2, line 31—p. 3, line 1; p. 4, lines 9-14; p. 17, line 16—p. 20, line 12; original claim 25. The apparatus includes means for establishing an inter-zone link with a first border node of a source zone with a second border node of a destination zone, and means for identifying an inter-zone link failure between the source zone and the destination zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28.

The apparatus also includes means for identifying a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The apparatus further includes means for informing a node in the destination zone of the pre-planned alternative route, means for informing a node in the source zone of the pre-planned alternative route, and means for

providing communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14.

In addition, the apparatus includes means for identifying an intra-zone failure within at least one of said source zone and said destination zone, and means for dynamically identifying an alternative route using a distributed restoration process. See, for example, Specification at p. 6, lines 23-30.

Independent claim 46 is directed to a method for restoring a path in a communication system between zones. See, for example, Specification at p. 2, line 31—p. 3, line 1; p. 4, lines 9-14. The method includes establishing an inter-zone link with a first border node of a source zone and with a second border node of a destination zone, and identifying an inter-zone link failure between the source zone and the destination zone. See, for example, Specification at p. 6, lines 1-4 and 9; p. 7, lines 30-32; and p. 13, lines 26-28. The source zone and the destination zone execute separate copies of a topology distribution algorithm. See, for example, Specification at p. 4, lines 14-16.

The method also includes identifying a pre-planned alternative route. See, for example, Specification at p. 6, lines 32-33; p. 13, lines 32-34. The method further includes informing a node in the destination zone of the pre-planned alternative route, informing a node in the source zone of the pre-planned alternative route, and providing communication between the destination zone and the source zone via the pre-planned alternative route. See, for example, Specification at p. 8, line 31—p. 9, line 3; p. 13, lines 30-34; p. 14, lines 24-26; p. 15, lines 11-14.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,026,077 issued to Iwata ("Iwata") in view of U.S. Patent No. 5,832,197 issued to Houji ("Houji"), and further in view of U.S. Patent No. 6,708,209 issued to Ebata et al. ("Ebata").

ARGUMENT

The claims are patentable under 35 U.S.C. § 103(a).

Appellant respectfully submits that the cited portions of Iwata, Houji, and Ebata, taken alone or in any combination, fail to show, teach, or suggest the claimed invention, and that a person having ordinary skill in the art would not make the proposed combination of references.

1. The cited portions of Iwata, Houji, and Ebata fail to disclose an inter-zone link that meets class of service requirements between a source zone and a destination zone.

Claim 1 reads as follows.

1. A method for restoring a path in a communication system between zones comprising:

establishing an inter-zone link between a first border node of a source zone and a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;

identifying an inter-zone link failure between the source zone and the destination zone;

identifying a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;

informing a node in the destination zone of the pre-planned alternative route;

informing a node in the source zone of the pre-planned alternative route; and

providing communication between the destination zone and the source zone via the pre-planned alternative route.

A number of limitations of claim 1 are not present in the cited portions of the references. As a first example, claim 1 includes establishing an <u>inter-zone link</u> between a first border node of a source zone and a second border node of a destination zone. In conjunction, the inter-zone link meets <u>class of service requirements</u> between the source zone and the destination zone. The Final Office Action argues on pp. 4 and 7 that these limitations are disclosed in Ebata. Appellant respectfully disagrees.

The Final Office Action and Advisory Action both cite three passages of Ebata (7:1-63, 17:37-58, and 18:17-21) as disclosing these limitations. In particular, the Final Office Action and the Advisory Action equate Ebata's "inter-organization link" and "QoS control" with the inter-zone link and class of service requirements in Appellant's claim 1. Even if these characterizations of Ebata are correct (a point which Appellant does not concede), the cited passages still fail to teach the limitations of claim 1.

Ebata describes a network system that includes several networks of different organizations. Each of the several networks includes a policy server and one or more border routers to communicate with other organizations' networks. The policy server provides a quality of service (QoS) guarantee service between end nodes. Ebata at FIG. 1, 3:24-45.

The Ebata policy server has a unit 320 that generates the QoS guarantee service (also termed a QoS guarantee path) between it and the other organizations. *Id.* at 4:63—5:6, FIG. 5. The Ebata system uses an "inter-organization resource policy table (322a)" that has entries for

each border router. Among these entries are columns "(f)" and "(g)" that indicate upper limits (M bits/sec) of a "band" of the outgoing interface available for each host. *Id.* at 6:1-21, FIG. 6.

The Ebata system also uses "an intra-organization resource policy table (321a)" that is discussed among the cited portions of Ebata. This table 321a has entries for the border routers that are permitted an inter-organization communication. *Id.* at 6:61-66, FIG. 8. FIG. 8 illustrates the table 321a, and the text of Ebata discusses the columns of this table 321a. Two of the columns, "c-1" and "c-2" describe upper limits of bands in Ebata:

> Entered in (c-1) are upper limits of the band that the hosts or the outgoing interfaces of the border routers can use in the communication via the inter-organization link IDs of (b) in response to the reservation type requests. (c-2) describes upper limits (M bits/sec) of the band that the hosts or the outgoing interfaces of the border routers can use in the communication via the inter-organization link IDs of (b) in response to the immediate type requests.

Id. at 7:4-11. This passage is in the first (7:1-63) of the three portions of Ebata that are cited by the Final Office Action and Advisory Action as supposedly teaching that an "inter-zone link meets class of service requirements between the source zone and the destination zone." The Final Office Action appears to equate the "upper limits" of bands in 7:1-63 of Ebata with the class of service requirements in Appellant's claim 1. In doing so, the Final Office Action misapprehends the teachings of Ebata.

This cited portion of Ebata includes an example of upper limits (in M bits/sec) for an allocation of communication capacity. This example makes clear that the upper limits in Ebata are not used to meet class of service requirements. Rather, Ebata's band upper limits indicate the maximum capacity that can be carried on a link. In other words, Ebata's band upper limit is a

maximum available capacity, not a minimum required capacity. This parameter contrasts with the limitation of Appellant's claim 1 that sets forth class of service requirements.

Ebata's example discusses a communication between a host Ha1 and a border router BRc1, which are illustrated in FIG. 9. The communication is over a path that includes three links, named LLa1, LLa2, and La2. These links have band upper limits of 10, 5.3, and 10.0 M bits/sec, respectively. Since the links are connected in series, the maximum throughput on the resulting path is the capacity of the weakest link. Ebata explains that this maximum available throughput is therefore 5.3 M bits/sec. *Id.* at 7:35-46. This figure describes what is available in the Ebata system, not what is required by the communications that use the Ebata system.

The Ebata example also discusses another example where two different paths are available for making a connection. *Id.* at 7:47-63. The host Ha1 could connect to another organization through two possible choices of links, which are also shown in FIG. 9. The first choice of links is LLa1, LLa2, LLa3, LLa4, and La3. These links have varying capacities, the minimum of which is 5.3 M bits/sec. A second choice of links is also available: LLa1, LLa2, LLa3, LLa8, LLa6, and La3. These links also have varying capacities, the minimum of which is 0.5 M bits/sec. Since the first choice of links provides the greater overall throughput, it is adopted by the Ebata system. *Id.* at 7:47-63. The other choice of links provides a path between the desired endpoints, "but this path, because it further reduces the upper limit to 0.5 (M bits/sec), is not adopted." *Id.* at 7:60-63.

This cited portion of Ebata (7:1-63) emphasizes the relevance of the "band upper limit" of the individual links used in the Ebata paths. These quantities are used to select among choices for paths, by comparing the available data capacities—"band upper limits"—on the paths. Ebata

merely selects the best option among various available options; it does not seek an option that meets any required criterion. Indeed, this cited teaching of Ebata fails to discuss any requirements for the performance of the selected path, and does not attempt to satisfy any required criteria; it merely selects the best path from among whatever paths are available. Thus, this cited portion of Ebata does not establish a link that "meets class of service requirements."

In addition, this portion of Ebata does not disclose the establishing of a link that meets "class of service requirements between the source zone and the destination zone." This additional shortcoming is evident because (1) these cited passages do not teach that any links between organizations (such as La2 or La3) are being selected at all—they are merely the only available options for communications in their respective situations, and (2) the cited passages do not discuss any requirements that apply to the communication links between organizations. Moreover, Ebata's organizations are not zones. An organization may have multiple zones, and a zone could include multiple organizations. For these reasons as well, this cited portion of Ebata additionally fails to establish an inter-zone link that meets class of service requirements between a source zone and a destination zone.

Still further, this portion of Ebata does not relate to decisions involved in establishing "an inter-zone link" that meets class of service requirements. The only decision that is made in this portion of Ebata (7:1-63) is the decision to select a first choice of links (LLa1, LLa2, LLa3, LLa4, and La3) over a second choice of links (LLa1, LLa2, LLa3, LLa8, LLa6, and La3). But this selection is based only on the differences within these two choices: where the first series uses one intra-organization link LLa4, the second series uses two intra-organization links LLa8 and LLa6. Thus, this decision involves only intra-organization links, and does not involve any evaluation of the inter-organization links. For this reason as well, this cited portion of Ebata fails

to establish an inter-zone link that meets class of service requirements between a source zone and a destination zone.

For these reasons, Appellant submits that it is amply clear that the first cited portion of Ebata (7:1-63) does not disclose the limitations of establishing an inter-zone link between a first border node of a source zone and a second border node of a destination zone, "where the inter-zone link meets class of service requirements between the source zone and the destination zone."

Appellant now turns to the second and third portions of Ebata that are cited in the Final Office Action and in the Advisory Action with regard to this limitation (17:37-58 and 18:17-21). These passages do not remedy the shortcomings noted above.

The second portion of Ebata (17:37-58) cited with regard to these limitations states in relevant part that "[f]or the communications covering multiple networks, the QoS control can be carried out not to violate the policy of each policy server of the networks through which the communications travel." The meaning of this passage can be understood by examining what the "policies" are in Ebata. According to the Abstract of Ebata, the policy for a network defines "a quality that can be guaranteed" in the network. Ebata at Abstract, lines 4-7. This aspect of Ebata emphasizes the point that was made above: Ebata is concerned not with an inter-zone quality of service that is <u>required</u> or desired, but rather with evaluating the capacity that is <u>available</u> or "can be guaranteed."

The second cited portion of Ebata thus teaches that Ebata's QoS control can be used to ensure that the communications through the networks does not exceed what is available. <u>Ebata's communications are curtailed to ensure that they conform</u> to local network limits, "not to violate" or exceed the available capacity. This teaching is in stark contrast to Appellant's

claim 1, in which an effort is made to establish links in ways that meet the requirements of the communications.

The third and final portion of Ebata (18:17-21) that is cited with regard to these limitations also falls short. This passage describes a unit that provides a path that has a "guaranteed quality." This guaranteed quality is within a calculation of a "quality that <u>can be guaranteed</u>" for the path (*id.* at 18:11-15 (emphasis added))—in other words, it is the quality that turns out to be available on the path, and is not a quality that meets any requirements.

In sum, the teachings of the cited portions of Ebata are somewhat the opposite of what the Final Office Action holds them out to be. The cited passages teach the curtailing of communications in view of the capacity that is available on a network. This curtailing stands in stark contrast to Appellant's claim 1, which has a limitation of establishing an inter-zone link "where the inter-zone link meets class of service requirements between the source zone and the destination zone."

Appellant also does not find this limitation in other portions of Ebata. Various other portions of the reference describe considerations for <u>intra</u>-organization links. See, e.g., *id.* at 13:63—14:21 and 19:1-47. However, none of these portions describe consideration for selecting <u>inter-zone</u> links that meet "class of service requirements between the source zone and the destination zone." As noted in the Final Office Action on p. 4, this limitation is also not disclosed in Iwata. Appellant also does not find this limitation in the cited portions of Houji, which do not discuss inter-zone links.

Since these limitations are not disclosed in the cited portions of the references, Appellant respectfully submits that independent claim 1 and all claims dependent therefrom are allowable

under § 103(a). At least for similar reasons, independent claims 9, 17, 25, and 33 and all claims dependent therefrom are also allowable under § 103(a).

2. The cited portions of the references fail to disclose a pre-planned alternative route that also meets the class of service requirements between the source zone and the destination zone.

Other limitations of Appellant's claims are also absent from the cited portions of the references. As a second example of the limitations missing from the cited portions, independent claim 1 includes limitations of in which the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone. The Final Office Action proposes on pp. 3-4, without any supporting explanation, that this limitation is present in a second reference, Houji (citing the Abstract; FIGs. 1 and 2; and 2:46—4:38). This citation is repeated in the Advisory Action, again without explanation.

Appellant respectfully disagrees with the Final Office Action's conclusion regarding Houji. Houji teaches the use of a selected path P1 for communications at a "user-specified" value for quality of service (QOS). Houji at 3:16-21; 3:43-47. The Final Office Action appears to equate Houji's selected path P1 and the user-specified QOS with the inter-zone link and the class of service requirements in Appellant's claim 1. Even if this characterization of Houji is correct (a point which Appellant does not concede), the cited portions of Houji do not disclose the use of a pre-planned alternative route that "also meets" the same class of service requirements.

Rather, Houji teaches against the use such pre-planned routes. Houji reserves spare paths, namely P2, P3, and P4 in case of a failure of the path P1:

> It is seen therefore that when a session begins on the connection established between terminals U1 and U2 over the path P1, other paths P2 to P4 are not used for communication, but reserved as spare paths for use in the event of a link failure which may occur along the path P1. As described before, because of the minimum QOS value with which paths P2 to P4 are reserved, the network resource is not wasted appreciably.

Houji at 3:43-50.

Houji thus teaches that the spare paths should be reserved at some "minimum" QOS value rather than at the needed "user-specified" value. This teaching is not inconsequential: Houji specifically advocates this approach with a goal of avoiding "wasted" network resources. Although multiple paths may be reserved for a single connection request in Houji, the cited passages do not teach that these paths include an inter-zone link that meets class of service requirements between a source zone and a destination zone, and a pre-planned alternative route that also meets the class of service requirements between the source zone and the destination zone. Rather, Houji opines that that this kind of redundancy would be wasteful.

As a result, a person having ordinary skill in the art would certainly not learn Appellant's claim 1 from Houji, since Houji advocates a contrary arrangement. Moreover, this teaching of the prior-art Houji reference indicates that a person having ordinary skill in the art would take an approach that is counter to the limitations of Appellant's claim 1. With the teachings of Houji, a skilled artisan would have reserved spare paths with a "minimum QOS value." This approach is substantially opposite to the use of a pre-planned alternative route that "also meets" the same class of service requirements as the link being supported in Appellant's claim 1.

Indeed, no combination of references that includes Houji could lead to a rejection of claim 1 under § 103(a). Any such combination of references would include Houji's teaching to <u>avoid</u> spare paths with more than a "minimum QOS value," thereby falling short of the class of

service requirements in Appellant's claim 1. Indeed, the teachings of Houji emphasize the non-obvious nature of Appellant's claim 1.

In addition, the discussion of FIG. 3A in Houji (3:51—4:16) further emphasizes that the cited passages fall short of teaching Appellant's claimed invention. The distinction here is one of an a priori determination, such as the pre-planned alternative route in Applicant's claim 1, as opposed to an a posteriori determination, taught in Houji. The discussion of FIG. 3A in Houji indicates that it is possible that a selected spare path will fail to support the user-specified value of the QOS parameter. In step 33, the Houji system queries whether the QOS request is accepted. One illustrated possibility is that the request may fail. This illustration makes clear that the cited portions of Houji do not perform a prior testing of the spare paths to ensure that they meet QOS requirements. Acknowledging the possibility that the request may fail, the diagram in FIG. 3A includes step 36, which loops the Houji procedure back to step 31 in an attempt to seek yet another candidate spare path. This looping and repeated testing in further clarifies that the Houji system requires on-the-fly searching to find an appropriate path after a failure occurs.

In contrast, various implementations of Appellant's claimed invention may be used to avoid such searching by using a pre-planned alternative route that meets class of service requirements between the source zone and the destination zone, as set forth in claim 1. Such a route may be used to provide communication between the destination zone and the source zone, restoring a path in a communication system.

Various implementations of the Appellant's invention may use such pre-planned alternative routes to quickly enable a replacement of a failed inter-zone route with a ready alternative route. Since the Appellant's pre-planned alternative route is known to meet the

appropriate class of service requirements from the time that this route is identified, it may be possible to skip class-of-service testing after detecting a failure. The replacement of a failed route may thus be carried out comparatively quickly. A procedure for replacing the failed path may not require testing of the class of service capabilities, since the class of service requirements were checked at the time that the Appellant's alternative route was initially identified. By allowing the recovery procedure to skip such testing, the Appellant's procedure may be used to enable more rapid recoveries from path failures.

Such testing cannot be skipped in the system taught in the cited portions of Houji, which performs no prior testing to ensure that a spare path meets the desired requirements. Without this testing, the cited system lacks various advantages that are found in some implementations of Appellant's invention. This difference arises because systems such as in the cited portions of Houji lack the limitations of establishing an inter-zone link with the inter-zone link meeting class of service requirements between a source zone and a destination zone, and of identifying a pre-planned alternative route that also meets the class of service requirements between the source zone and the destination zone.

Since these limitations are not disclosed in the cited portions of the references, Appellant respectfully submits that independent claim 1 and all claims dependent therefrom are additionally allowable under § 103(a). At least for similar reasons, independent claims 9, 17, 25, and 33 and all claims dependent therefrom are also allowable under § 103(a).

<u>3. The cited portions of the references fail to disclose identifying an *intra*-zone failure in addition to an *inter*-zone link failure.</u>

Appellant's independent claim 41 also includes various limitations that are not disclosed in the cited art. For example, claim 41 includes limitations of identifying an <u>inter-zone</u> link failure and of identifying an <u>intra-zone</u> failure within at least one of the source zone and destination zone. These limitations relate both to an <u>inter</u>-zone link failure and also to an <u>intra</u>-zone failure. Appellant respectfully submits that these limitations are not disclosed in the cited portions of the references.

The Final Office Action cites two separate passages as disclosing "identifying an intra-zone failure within at least one of said source zone and said destination zone." In addition, the Advisory Action cites a third feature of Iwata. However, none of these cited portions teaches or fairly discloses this limitation from Appellant's claim 41.

First, the Final Office Action proposes on p. 6 that the link state database 102 from FIGS. 2-6 of Iwata teaches the identification of an intra-zone failure. Appellant respectfully disagrees.

The link state database 102 in Iwata is not related to the identification of intra-zone failures. Iwata describes this database as being included in a node control unit. Iwata at 5:6-19. With regard to the function of this database, Iwata discloses that the database 102 operates in conjunction with a link state routing protocol unit 101:

> The link state routing protocol unit 101 exchanges hello messages with neighboring physical nodes. The link state routing protocol unit 101 thus determines whether a given link is acceptable and/or desirable for carrying a given connection between the physical node where it locates and the adjacent neighbor physical nodes. A notification is flooded throughout the same peer group. The

> notification contains appropriate information about a bandwidth and delay in the physical link between the adjacent physical nodes. As a result of the flooding, all the physical nodes within the same peer group note the connection topology information for all physical nodes. Likewise, the node which has been elected to perform some of the functions associated with a logical node at a higher level in the same peer group exchanges the hello message with the adjacent neighbor logical node within the peer group PG-X at a higher level or hierarchy. The elected node floods or disseminates the link state parameters for discovered adjacent neighbor topology information and a lower level or hierarchy in a compressed format. The elected node disseminates such information to the logical nodes within the peer group PG-X at the higher level. This allows the logical nodes within the peer group PG-X at the higher level to discover the connection topology information for all logical nodes. The connection topology information is flooded among all logical nodes within the peer groups at the lower level. The above-mentioned operation is repeated recursively for all levels of the hierarchy to exchange the hierarchical link state parameters. <u>The link state parameters captured by the link state routing protocol unit 101 in the manner described above are stored in the link state database 102</u>.

Iwata at 5:25-55 (emphasis added).

According to Iwata, the link state database 102 stores link state parameters captured by the link state protocol. In other portions of Iwata, these parameters are then used during the computation of routes. However, as may be seen from the above-quoted passage, <u>the link state parameters in the Iwata database 102 are not based on an identification of an intra-zone failure.</u> Further, these parameters are captured by the link state routing protocol unit 101 during regular healthy operation of the Iwata system: they are not indicative of failures, and in particular, they are not collected in response to an intra-zone failure.

This point may further be seen in Iwata's description of the link state parameters that are stored in the link state database 102. According to Iwata, the parameters include "information about a bandwidth of a link and delay to discover a hierarchical topology." Iwata at 2:13-22.

None of this stored information in the link state database 102 reflects the identification of an intra-zone failure. Accordingly, the link state database 102 in Iwata does not teach the identifying of an intra-zone failure within at least one of a source zone and a destination zone. Appellant also sees no other aspect of the cited portions of the references that disclose this limitation.

Second, the Final Office Action also proposes on p. 9 that the following passage from Iwata (2:4-11) teaches the identification of an intra-zone failure:

> Yet another object of the present invention is to provide a failure restoration system that is capable of selecting an alternate path with all physical nodes/physical links (except for a source node and a destination node) different from those on a main path except for highly reliable (duplicated) physical nodes/physical links to restore the connection that has encountered a failure in leaf nodes and/or links with a short delay.

Appellant respectfully disagrees with the Final Office Action's assessment of this passage. This passage does not disclose, directly or indirectly, operations relating to intra-zone failures. Indeed, this passage does not appear to teach or fairly suggest any considerations relating to zones. Accordingly, this passage also fails to disclose Appellant's "identifying an intra-zone failure within at least one of said source zone and said destination zone."

Third, the Advisory Action proposes that FIGs. 16-17 of Iwata somehow disclose a failure "within peer group." This new argument in the Advisory Action appears to acknowledge the shortcomings of the Final Office Action, since it is provided "[i]n response to applicant's arguments."

As an initial matter, Appellant respectfully submits that the Final Office Action does not clearly identify the relevant features of the cited material. As set forth in 37 C.F.R. § 1.104(c)(2):

> In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

Appellant respectfully submits that the particular parts of the cited portions of the references that the Office Action has relied upon have not been designated as nearly as practicable, as required by 37 C.F.R. § 1.104(c)(2). For example, the Advisory Action does not point to any particular aspect of the reference as disclosing an intra-zone failure. Appellant respectfully disagrees with the conclusion of the Advisory Action, because neither FIG. 16, nor FIG. 17, nor any of the associated discussion in Iwata discloses a failure within a peer group.

Since this limitation is not disclosed in the cited portions of the references, Appellant respectfully submits that independent claim 41 and all claims dependent therefrom are allowable under § 103(a). At least for similar reasons, independent claim 44 is also allowable under § 103(a).

4. The cited portions of the references fail to disclose a source zone and a destination zone that execute separate copies of a topology distribution algorithm.

Appellant's independent claim 46 also includes various limitations that are not disclosed in the cited art. For example, claim 46 includes a limitation wherein a source zone and a destination zone execute separate copies of a topology distribution algorithm.

The Final Office Action proposes on p. 9 that this limitation is disclosed in Iwata at 1:19-32; 1:60—2:43; and 3:44—4:16. Appellant respectfully disagrees. Again, the rejection falls short of the standards set forth in 37 C.F.R. § 1.104(c)(2). For example, it is not clear what feature from these lengthy passages is to be understood as corresponding to Appellant's "topology distribution algorithm," nor which features are to be understood as corresponding to the "separate copies" thereof. Appellant respectfully submits that the rejection should be withdrawn at least for this reason.

Nevertheless, the Appellant has made every effort to respond to the rejections outlined by the Office Action. Appellant does not see any features in the cited passage that teach or fairly suggest Appellant's limitation wherein a source zone and a destination zone execute separate copies of a topology distribution algorithm; this limitation is absent from the cited passages.

In the Advisory Action, the Examiner proposes a new argument: that the "separate and/or different subnet may have separate topology [fig. 17]" in Iwata. This argument also fails.

First, this argument relies on suppositions of what "may" occur in Iwata's system; it does not rest on any actual disclosure in the reference. Second, the cited figure and accompanying discussion do not disclose what the Advisory Action says they disclose. Fig. 17 of Iwata teaches a process that varies depending on the location of a physical node within a peer group. Iwata at 16:8-10. In particular, the process performs different routines depending on whether or not a connection setup request is an automated failure restoration function request (step 1811), and whether or not a physical node is an entry border node (step 1813). However, there is no mention in the description of this figure (Iwata at 16:8-34) of the use of "subnets" or of the use of a "separate topology." More to the point, the cited passages do not disclose or fairly suggest the use of zones that execute separate copies of a topology distribution algorithm.

At least for this reason, claim 46 is allowable under § 103(a).

5. The Final Office Action fails to establish a motivation for the proposed combination of Iwata and Houji.

A person having ordinary skill in the art would not make the combination of Iwata and Houji as proposed in the Final Office Action. The Final Office Action proposes the use of Houji's QOS parameters in the Iwata system. According to the Final Office Action, the motivation for making this combination would be to provide a feature that "performs alternate routing and avoids congestion without interrupting a connection." Final Office Action at 3-4, 9-10. However, there is nothing in either reference (nor, in fact, in the skill in the art at the time of invention) that shows, teaches or even suggests that Houji's use of QOS parameters would be particularly desirable in the setting described in Iwata. To suggest otherwise would be to use the Appellant's claims as a blueprint for such a rejection, and so employ impermissible hindsight.

In fact, Appellant respectfully submits that the discussion in Iwata is oblivious to any need for QOS considerations or for any other techniques taught in Houji. Neither reference includes a suggestion that one of skill in the art should look elsewhere for other restoration techniques to supplement the teachings of the individual references. Iwata is quite self-contained in this regard. In a similar manner, Houji is similarly self-contained, providing a standalone restoration technique that would find no benefit from Iwata that would be particularly applicable to Houji's disclosed restoration technique.

In particular, the motivation proposed in the Final Office Action would not lead a person having ordinary skill in the art to make the proposed combination, because <u>Houji itself discusses techniques to adequately perform alternate routing to avoid congestion without interrupting a</u>

connection. The discussion in Houji sets forth this goal (Houji at 1:20-30) and then describes techniques for achieving such routing, with the additional goal of avoiding the reservation of significant amounts of network resources for each connection (*id.*). For example, such techniques are adequately set forth with the use of established paths with a minimum QOS value (*id.* at 2:66—3:15), supplemented by an after-failure request for the alteration of a QOS parameter from the minimum value to a user-specified value (*id.* at 3:51—4:4). A person having ordinary skill in the art would not have any motivation to supplement this teaching from Houji with the material of Iwata. For this reason as well, the claims are allowable under § 103(a).

6. The Final Office Action fails to establish a motivation for the proposed combination of Ebata with either Iwata or Houji.

A person having ordinary skill in the art would not make the combination of Ebata with either Iwata or Houji as proposed in the Final Office Action. On p. 4 (and also on p. 10), the Final Office Action proposes two motivations for making this combination. The first proposed motivation would be to provide a "quality-guaranteed path extending to a plurality of networks which has a quality guaranteed [by] the policies." The Final Office Action cites 2:23-27 of Ebata for this motivation. The second proposed motivation would be "to be guaranteed [a quality] in its own network for an inter-network communication." For this motivation, the Final Office Action cites 2:5-7 of Ebata. Appellant submits that both of these proposed motivations are goals of Ebata that are squarely met by the teachings of Ebata itself. A person having ordinary skill in the art would find Ebata to be a complete reference for these teachings, and would not have a motivation to turn to another reference, such as Houji or Iwata, to supplement these teachings. For this reason as well, the claims are allowable under § 103(a).

CONCLUSION

For the above reasons, Appellant respectfully submits that the rejection of pending Claims 1-46 is unfounded. Accordingly, Appellant respectfully requests that the Board reverse the rejections of these claims.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. The undersigned also hereby authorizes that any fees due for such extensions or any other fee associated with this submission be charged to deposit account 502306.

Respectfully submitted,

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APPENDIX OF CLAIMS

1. A method for restoring a path in a communication system between zones comprising:

establishing an inter-zone link between a first border node of a source zone and a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;

identifying an inter-zone link failure between the source zone and the destination zone;

identifying a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;

informing a node in the destination zone of the pre-planned alternative route;

informing a node in the source zone of the pre-planned alternative route; and

providing communication between the destination zone and the source zone via the pre-planned alternative route.

2. The method of claim 1 further comprising:

routing the pre-planned alternative route through a transit zone.

3. The method of claims 2 further comprising:

requesting new paths to be established between zones.

4. The method of claim 3 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

5. The method of claim 2 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

6. The method of claim 1 further comprising:

establishing new paths to be established between zones.

7. The method of claim 6 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

8. The method of claim 1 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

9. A network element configured to restore a path in a communication system comprised of:

a processor configured to:

establish an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;

identify an inter-zone link failure between the source zone and the destination zone;

identify a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;

inform a node in the destination zone of the pre-planned alternative route;

inform a node in the source zone of the pre-planned alternative route; and

provide communication between the destination zone and the source zone via the pre-planned alternative route.

10. The network element of claim 9 wherein the processor is further configured to:

route the pre-planned alternative route through a transit zone.

11. The network element of claim 10 wherein the processor is further configured to:

request new paths to be established between zones.

12. The network element of claim 11 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

13. The network element of claim 10 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

14. The network element of claim 9 wherein the processor is further configured to:

establish new paths to be established between zones.

15. The network element of claim 14 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

16. The network element of claim 9 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

17. A computer system comprising:

a processor;

a computer readable medium coupled to the processor; and

computer code, encoded in the computer readable medium, configured to cause the processor to:

establish an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;

identify an inter-zone link failure between the source zone and the destination zone;

identify a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;

inform a node in the destination zone of the pre-planned alternative route;

inform a node in the source zone of the pre-planned alternative route; and

provide communication between the destination zone and the source zone via the pre-planned alternative route.

18. The computer system of claim 17 wherein the computer code is further configured to cause the processor to:

route the pre-planned alternative route through a transit zone.

19. The computer system of claim 18 wherein the computer code is further configured to cause the processor to:

request new paths to be established between zones.

20. The computer system of claim 19 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

21. The computer system of claim 18 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

22. The computer system of claim 17 wherein the computer code is further configured to cause the processor to:

establish new paths to be established between zones.

23. The computer system of claim 22 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

24. The computer system of claim 17 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

25. An apparatus for restoring a path in a communication system comprising:

means for establishing an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;

means for identifying an inter-zone link failure between the source zone and the destination zone;

means for identifying a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;

means for informing a node in the destination zone of the pre-planned alternative route

means for informing a node in the source zone of the pre-planned alternative route; and

means for providing communication between the destination zone and the source zone via the pre-planned alternative route.

26. The apparatus for restoring a path in a communication system of claim 25 further comprising:

means for routing the pre-planned alternative route through a transit zone.

27. The apparatus for restoring a path in a communication system of claim 26 further comprising:

means for requesting new paths to be established between zones.

28. The apparatus for restoring a path in a communication system of claim 27 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

29. The apparatus for restoring a path in a communication system of claim 26 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

30. The apparatus for restoring a path in a communication system of claim 25 further comprising:

means for establishing new paths to be established between zones.

31. The apparatus for restoring a path in a communication system of claim 30 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

32. The apparatus for restoring a path in a communication system of claim 25 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

33. A computer program product, encoded in computer readable media, comprising:

a first set of instructions, executable on a computer system, configured to establish an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;

a second set of instructions, executable on the computer system, configured to identify an inter-zone link failure between the source zone and the destination zone;

a third set of instructions, executable on the computer system, configured to identify a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;

a fourth set of instructions, executable on the computer system, configured to inform a node in the destination zone of the pre-planned alternative route;

a fifth set of instructions, executable on the computer system, configured to inform a node in the source zone of the pre-planned alternative route; and

a sixth set of instructions, executable on the computer system, configured to provide communication between the destination zone and the source zone via the pre-planned alternative route.

34. The computer program product of claim 33, encoded in computer readable media, further comprising:

a seventh set of instructions, executable on the computer system, configured to provide routing the pre-planned alternative route through a transit zone.

35. The computer program product of claim 34, encoded in computer readable media, further comprising:

an eighth set of instructions, executable on the computer system, configured to request new paths to be established between zones.

36. The computer program product of 35 wherein the pre-planned alternative route is configured based on class of service requirements.

37. The computer program product of 34 wherein the pre-planned alternative route is configured based on class of service requirements.

38. The computer program product of claim 33, encoded in computer readable media, further comprising:

a seventh set of instructions, executable on the computer system, configured to establish new paths to be established between zones.

39. The computer program product of 38 wherein the pre-planned alternative route is configured based on class of service requirements.

40. The computer program product of 33 wherein the pre-planned alternative route is configured based on class of service requirements.

41. A method for restoring a path in a communication system between zones comprising:

establishing an inter-zone link with a first border node of a source zone with a second border node of a destination zone;

identifying an inter-zone link failure between the source zone and the destination zone;

identifying a pre-planned alternative route;

informing a node in the destination zone of the pre-planned alternative route;

informing a node in the source zone of the pre-planned alternative route;

providing communication between the destination zone and the source zone via the pre-planned alternative route;

identifying an intra-zone failure within at least one of said source zone and said destination zone; and

dynamically identifying an alternative route using a distributed restoration process associated with said at least one of said source zone and said destination zone.

42. The network element of claim 9 wherein the processor is further configured to:

identify an intra-zone failure within at least one of said source zone and said destination zone; and

dynamically identify an alternative route using a distributed restoration process.

43. The computer system of claim 17 wherein the computer code is further configured to cause the processor to:

identify an intra-zone failure within at least one of said source zone and said destination zone; and

dynamically identify an alternative route using a distributed restoration process.

44. An apparatus for restoring a path in a communication system comprising:

means for establishing an inter-zone link with a first border node of a source zone with a second border node of a destination zone;

means for identifying an inter-zone link failure between the source zone and the destination zone;

means for identifying a pre-planned alternative route;

means for informing a node in the destination zone of the pre-planned alternative route

means for informing a node in the source zone of the pre-planned alternative route;

means for providing communication between the destination zone and the source zone via the pre-planned alternative route;

means for identifying an intra-zone failure within at least one of said source zone and said destination zone; and

means for dynamically identifying an alternative route using a distributed restoration process.

45. The computer program product of claim 33, encoded in computer readable media, further comprising:

a seventh set of instructions, executable on the computer system, configured to identify an intra-zone failure within at least one of said source zone and said destination zone; and

an eighth set of instructions, executable on the computer system, configured to dynamically identify an alternative route using a distributed restoration process.

46. A method for restoring a path in a communication system between zones comprising:

establishing an inter-zone link with a first border node of a source zone with a second border node of an destination zone, wherein the source zone and the destination zone execute separate copies of a topology distribution algorithm;

identifying an inter-zone link failure between the source zone and the destination zone;

identifying a pre-planned alternative route;

informing a node in the destination zone of the pre-planned alternative route;

informing a node in the source zone of the pre-planned alternative route; and

providing communication between the destination zone and the source zone via the pre-planned alternative route.

APPENDIX OF EVIDENCE

None.

APPENDIX OF RELATED PROCEEDINGS

None.